

# **ABSTRACT**

Disclosed is a method for operating a synchronous machine having a permanently excited rotor and a stator provided with phase windings, in which the rotor position is determined. In order to correct a possible angular error, with the synchronous machine unloaded, at least one current and/or voltage vector having a defined duration is applied to the phase windings in the direction of the determined rotor position. This measure constrains the orientation of the rotor of the synchronous machine in the corresponding angular position, and it is ensured that the rotor adopts the previously determined angular position.